

Claims:

1. An odontological device for guiding the occlusion of an individual, said device comprising:

5 – a generally U-shaped arch that has a lower surface on the lower jaw side and an upper surface on the upper jaw side,
– the bottoms of the mentioned concaves forming an isthmus separating the concaves and the walls of the concaves are formed by the outer walls on the labial or buccal side, respectively, and of inner walls arranged on the opposite sides of the concaves on the lingual side of the tongue, the isthmus between the concaves having recesses, a part of which are meant for individual teeth,
10 characterized in that
– the recesses for the back teeth consist of uniform compartments, which start from the second premolar and continue towards the molars at least partially to
15 the area where the second permanent molar will erupt.

2. An odontological device according to Claim 1, characterized in that the side walls of the mentioned uniform compartments are formed by outer and correspondingly inner walls, which have essentially straight walls.

20 3. An odontological device according to Claim 1 or 2, characterized in that said compartments are shaped like continuous troughs, and the troughs are open from the molar side end.

25 4. An odontological device according to any of Claims 1 to 3, characterized in that said recesses contain uniform recesses limited to the area of the front teeth, and the walls of the hollows are essentially smooth-surfaced.

30 5. An odontological device according to any of Claims 1 to 4, characterized in that said concaves have their own blanks for canine teeth and the first premolars.

35 6. An odontological device according to any of the preceding claims, characterized in that said isthmus separating the concaves is thicker at least in the area of the molars than in the area of the front teeth.

7. An odontological device according to Claim 6, characterized in that said isthmus thickness changes stepwise at the point between the premolars.
8. An odontological device according to Claim 6 or 7, characterized in that said isthmus is essentially even in such a way that its thickness in the narrower area is essentially in fixed range of approximately 1 to 10 mm and 3 – 13 mm, respectively, in the thicker area.
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9. An odontological device according to one of the preceding claims,
10 characterized in that the inner wall on the side of the lower jaw forms a wing constricting the tongue at least sideways, and the wing is shaped to help keep the device firmly in place in the individual's mouth.
10. An odontological device according to Claim 9, characterized in that the
15 mentioned lower wing has been continued at least essentially aligned downwards with the surface of the mentioned inner wall in such a way that it extends lower than the corresponding outer wall.
11. An odontological device according to Claims 9 or 10, characterized
20 in that said lower wing has been arranged so as to reach the immediate proximity of the base of the mouth cavity.
12. An odontological device according to Claim 9 or 11, characterized in that said
25 shape of the lower wing, particularly in the molar area, follows essentially the shape of the lower side jaw arch.
13. An odontological device according to any of Claims 9 to 12, characterized in
30 that the downwards dimension of the mentioned lower wing has been reduced at the point of the ligament of the tongue.
14. An odontological device according to Claim 13, characterized in that said
lower wing extends approximately at the point of the first molar to a distance of 14 mm
as a maximum of the down side surface of said isthmus, in which case said distance is
approx. 3 to 6mm smaller in the area of the ligament of the tongue.
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15. An odontological device according to any of Claims 10 to 14, characterized

in that the outer wall on the upper jaw side surface has been at least partially continued upwards at least essentially aligned upwards to the wall surface in such a way that it extends above the gum line.

- 5 16. An odontological device according to Claim 15, characterized in that said upper side outer wall extends essentially above the gum line at least in the area of the first and second tooth, and preferably also in the area of the third and fourth tooth.
- 10 17. An odontological device according to Claim 15 or 16, characterized in that said upper outer wall extends at its highest point to approx. 10 mm from the distance of the upper side surface of said isthmus.
- 15 18. An odontological device according to one of the preceding claims, characterized in that when the upper side arch, measured essentially along the base of the arch and between the second and third tooth, is approx. 32 mm, the length of the compartment starting from the second premolar and terminating in an open end is 22 mm on the upper side and 24 mm on the lower side, and correspondingly, when the length of the mentioned arch is 37 mm, the length of the compartment is 24 mm on the upper side and 27 mm on the lower side.
- 20 19. An odontological series of devices, containing a series of essentially conformal devices of different sizes, characterized in that the devices correspond to one of the preceding claims.
- 25 20. A series of devices according to Claim 19, characterized in that the upper side arch of a device in the series, measured along the base of the arch and between the second and third tooth, is less than about 26 mm, the maximum distance of the lower wing lower edge to the equivalent point on the surface of the isthmus between the masticating surfaces is approximately 8 to 10 mm, and when the mentioned arch is over 26 mm said maximum distance is about 14 mm.
- 30 21. An odontological device series according to Claim 19 or 20, characterized in that when the upper side arch of a device in the series, measured essentially along the base of the arch and between the second and third tooth, is approx. 32 mm, the length of the mentioned compartment starting from the second premolar and terminating in an open end is 22 mm on the upper side and 24 mm on the lower side, and
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correspondingly, when the length of the mentioned arch is 37 mm, the length of the compartment is 24 mm on the upper side and 27 mm on the lower side.

22. A device series according to any of Claims 19 to 21, characterized in that the 5 smallest device in the series has the mentioned arch length of less than 26 mm and the largest 36 mm as a minimum, preferably at least of approx. 38 mm.

23. A device series according to any of Claims 19 to 22, characterized in that the 10 length of the smallest device in the series, measured from the wall on the lingual side of the front teeth to the line connecting the open ends of the molar areas, is essentially less than 40 mm and the upper side front wall at least 5 mm high.

24. A device series according to any of Claims 19 to 23, characterized in that the 15 25. A method in orthodontics for selecting an occlusion guidance appliance device, according to which method

- at least one characteristic measurement is defined for an individual's teeth, and
- based on this measurement an appropriate device is selected for that individual, characterized in that
- the length of the upper jaw side dental arch is measured from the individual's teeth between the left and right hand side front and middle teeth or two middle teeth,

in which case, based on the measurement without taking separately into consideration the developmental phase of the teeth, a suitable occlusion guidance appliance device is 25 chosen from an occlusion guidance appliance device series, which contains several essentially conformal and different-sized occlusion guidance appliance devices.

26. A method according to Claim 25, characterized in that the device is selected from an occlusion guidance appliance device series according to any of 30 Claims 19 to 24.

27. A method according to Claim 25 or 26, characterized in that the measurement of the dental arch is taken from the anatomy along the outer surface and a device is selected based on the resulting measurement, the arch measurement of which is 1 – 2 35 mm smaller than the measurement according to the anatomy.